



City of Piqua – City of Troy

Joint Water Supply Feasibility Study
Final Report Community Presentation

July 31, 2012



Project Purpose

- ▶ Evaluate options for both Cities to create a joint water treatment and supply utility that would:
 - Supply current and future drinking water needs for both cities.
 - Offer an affordable and cost effective water solution for the region.



RA Consultants Project Team

- ▶ Engineering Concepts
- ▶ Structure/Governance
- ▶ Business Case Analysis
- ▶ Troy Well Field Assessment

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Major Project Tasks

Conceptual Design

- ▶ Develop a conceptual design plan for optimal water treatment and delivery in both cities
 - Redundancy and reliability of water supply
 - Water quality
 - Construction costs for optimal solution
 - Operating costs for optimal solution



Major Project Tasks

Structure and Governance

- ▶ Identify a structure for operating and governing a joint water supply utility
 - Staffing and servicing requirements for day to day operations
 - Identify a governance structure that provides both cities acceptable oversight of operations, capital investments, and annual operating costs



Major Project Tasks

Financial Analysis

- ▶ Determine costs associated with implementing joint utility treatment and delivery system, day to day operations, and governance.
 - Projected costs apportioned to each community
 - Comparative costs evaluation – new solution vs. current status quo costs



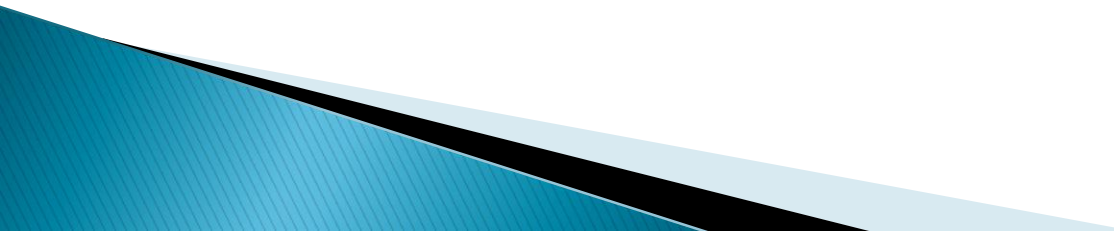
Additional Project Task

Troy Well Field Assessment

- ▶ Determine the viability of the Troy East and West well fields given the ground water contamination studies being conducted by the USEPA and OEPA



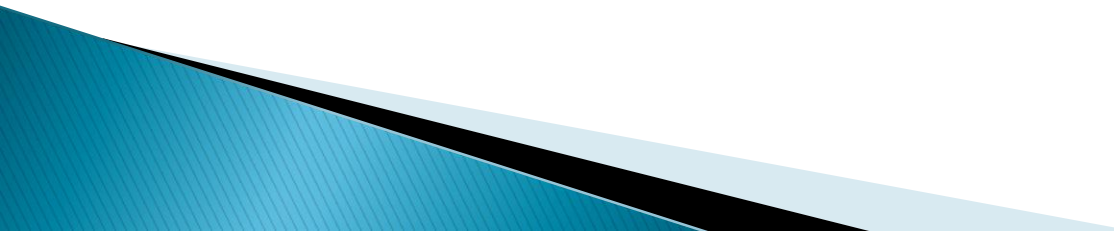
Today's Agenda

- ▶ Troy Well Field Assessment
 - ▶ Water Supply from Troy to Piqua
 - ▶ Structure of a Joint Water Operation
 - ▶ Financial Analysis and Rate Impacts
 - ▶ Questions & Answers
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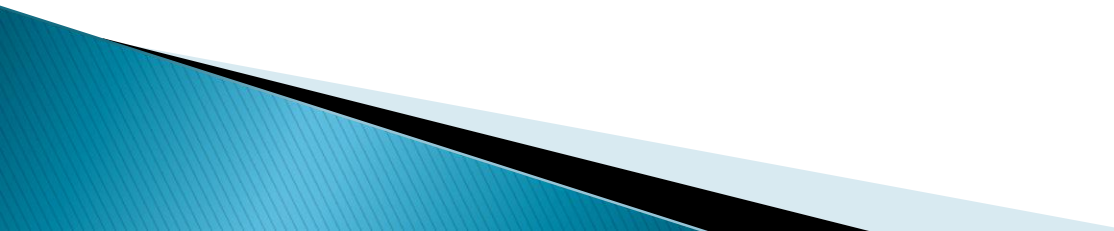
Troy Well Field Sustainability Assessment



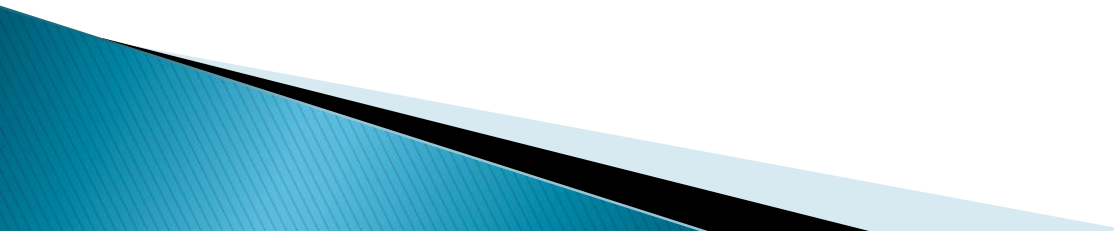
Well Field Sustainability Assessment

- ▶ Aquifer Capacity
 - ▶ Water Quality
 - ▶ Well–Field Sustainability
 - ▶ Sustainability Requirements
 - ▶ Most Likely Costs
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Aquifer Capacity & Use

- ▶ High Yield Sand & Gravel Aquifer
 - ▶ Oriented along the Great Miami River
 - ▶ Near surface to over 150 feet deep
 - ▶ Favorable recharge via river and precipitation
 - ▶ Aquifer susceptible to contamination
- 

Aquifer Capacity & Use (cont'd)

- ▶ Troy presently uses two well fields (East & West)
 - ▶ Existing Well Field Capacity is 10.4 MGD
 - ▶ 8.7 MGD capacity with best well out of service
 - ▶ Projected capacity of over 15.4 MGD with known future well sites
 - ▶ SWAP Delineation & PCS Inventory updated in 2010
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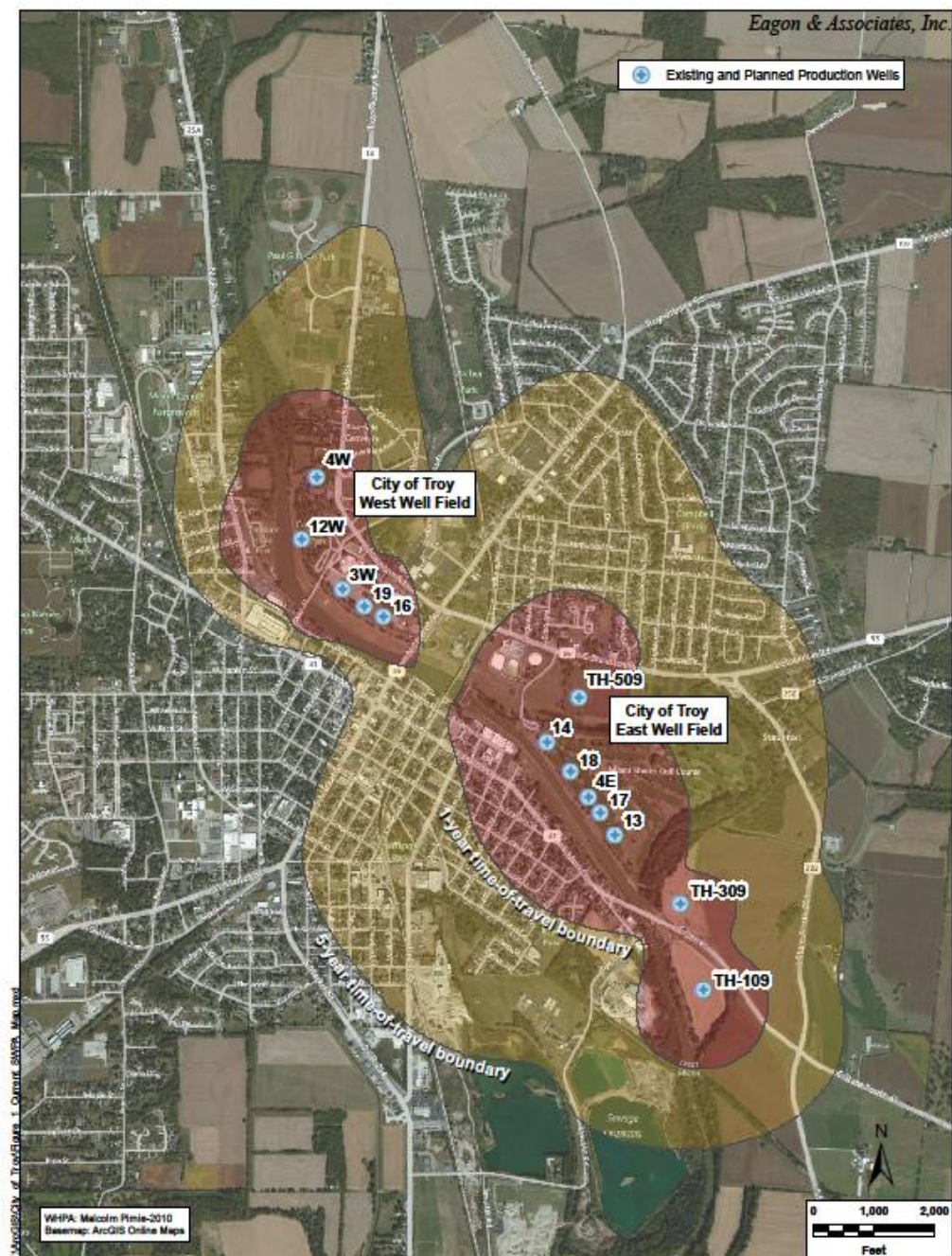


Figure 1. Source Water Protection Area
CITY OF TROY, OHIO

Water Quality

- ▶ Natural ground-water quality is favorable
 - Low iron and manageable manganese and hardness
 - Only basic treatment needed – softening
- ▶ Contamination from chlorinated solvents is greatest present threat
- ▶ Ohio EPA & USEPA actively investigating two areas of concern
 - East Troy Contaminated Aquifer Site (Superfund)
 - West Troy Contaminated Aquifer (nominated for Superfund)

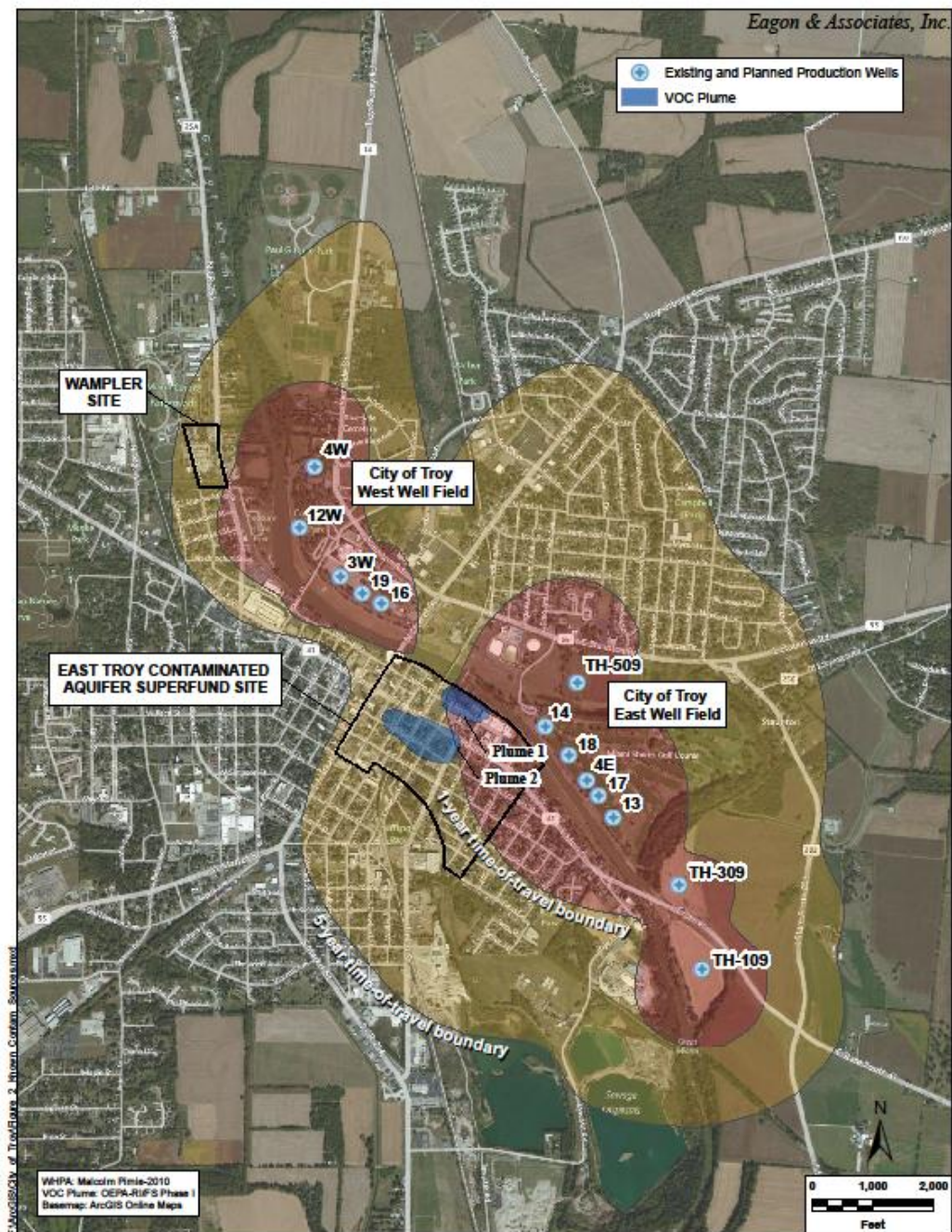
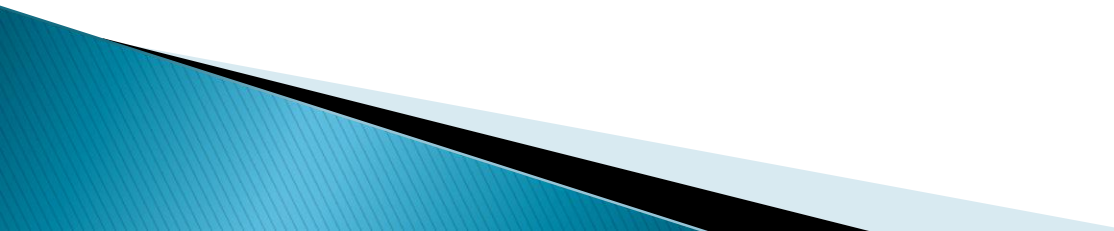


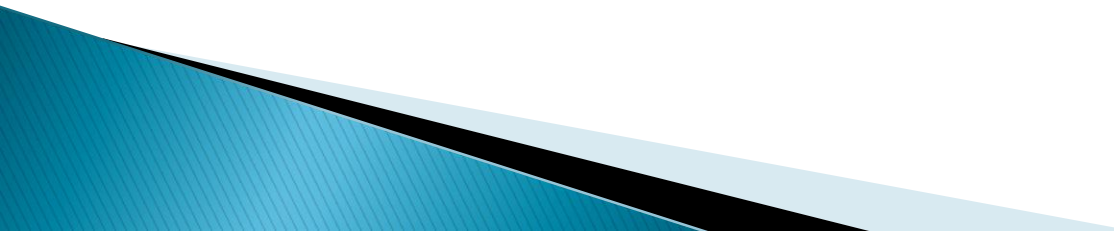
Figure 2. Known Contaminant Sources
CITY OF TROY, OHIO

Water Quality (cont'd)

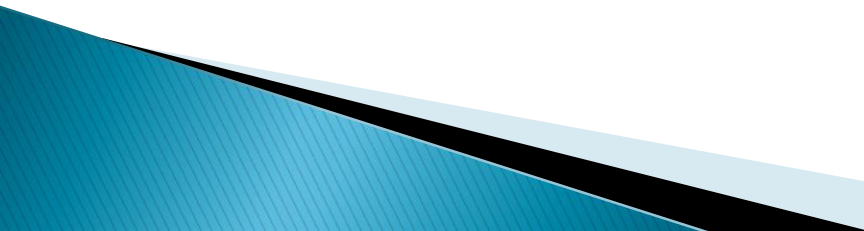
- ▶ Low levels of solvent contamination detected in both well fields
 - ▶ Contaminated aquifers not uncommon in similar settings
 - ▶ Contamination is treatable using existing mainstream technologies
 - ▶ City of Dayton operates as many as 18 treatment systems in their well fields
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Water Quality (cont'd)

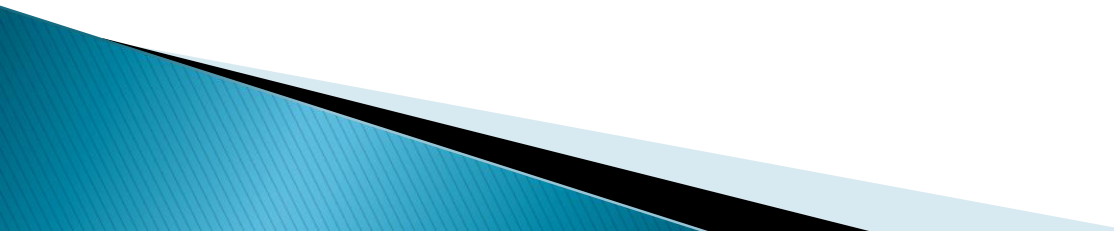
▶ West Well Field

- PCE, TCE and cis-1,2-DCE routinely detected in Well 12
 - PCE & TCE are commonly used for dry cleaning and degreasing
 - Very persistent in the environment
 - Degradation produces cis-1,2-DCE and vinyl chloride
 - PCE concentrations in Well 12 are frequently above Federal standards of 5 ppb (MCL)
 - No MCL exceedances in finished water
 - Concentrations gradually increasing
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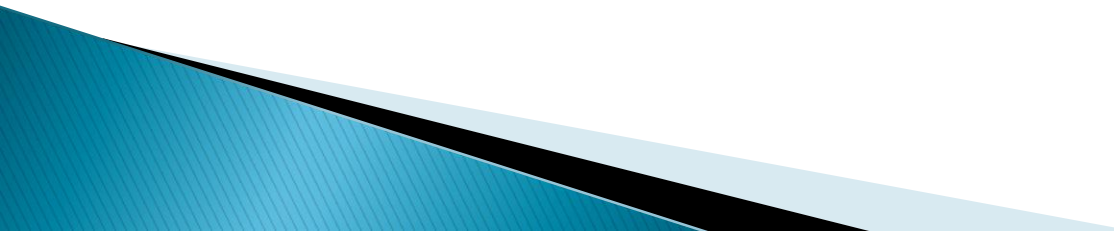
Water Quality (cont'd)

- East Well Field: cis-1,2-DCE routinely detected in Wells 14 & 18
 - Concentrations substantially below MCL of 70 ppb
 - Concentrations relatively stable
 - Present management strategies result in nondetect of all constituents in finished water
 - PCE detected in finished water historically when Well 12 used at capacity (below MCL of 5 ppb)
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Well-Field Sustainability

- No plausible scenario whereby wells become unusable
 - Aquifer capacity sufficient to meet present and future demand
 - Treatment to remove VOC contamination should be anticipated
 - New well development will be necessary to meet growth projections
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Sustainability Requirements

- SWAP Management
 - Augmented & refocused ground-water monitoring
 - Coordination with Ohio EPA & USEPA
 - Contingency Planning
 - Treatment using air strippers
 - New well development
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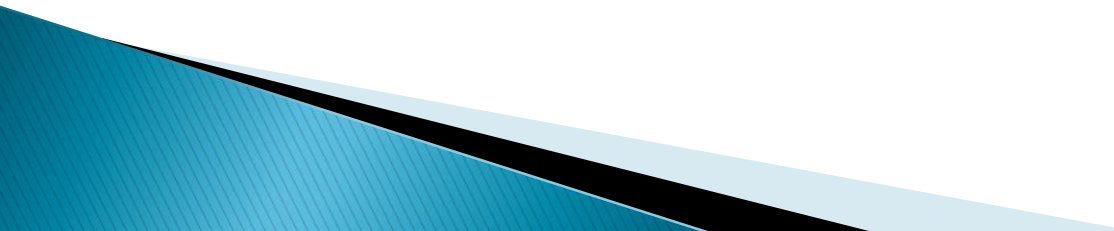
Most Likely Costs

▶ Capital Investment

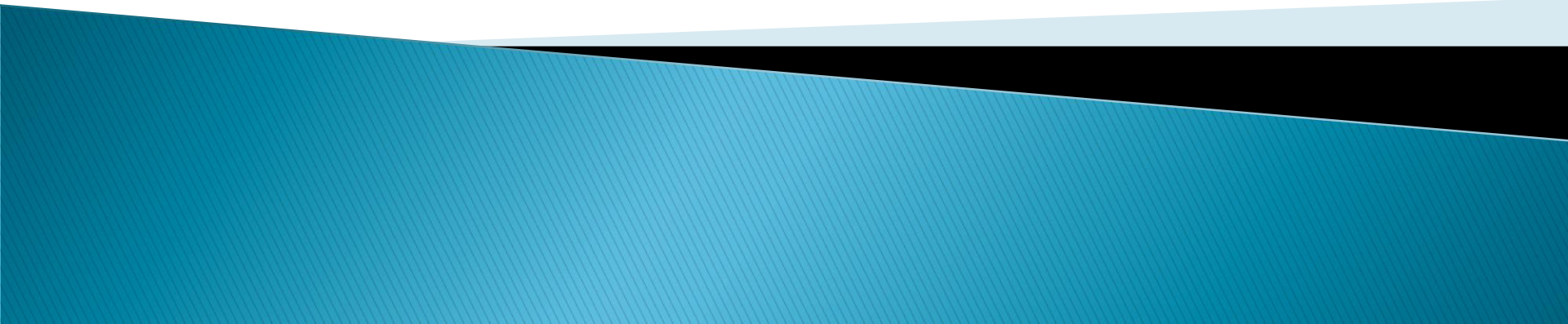
- Addition of two new supply wells \$450,000
- Install air stripper for West Well Field \$325,000
- Update SWAP Management Plan \$20,000
- Additional Monitoring Wells \$42,000

Most Likely Costs (cont'd)

▶ Annual O&M

- Air stripper operation \$15,000
 - Laboratory cost for monitoring \$5,000
 - 5-Year SWAP Plan updates \$25,000 ea
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Water Supply from Troy to Piqua



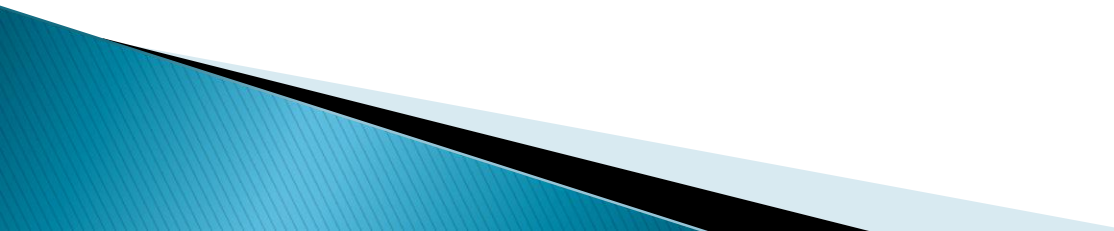
Starting at the Source



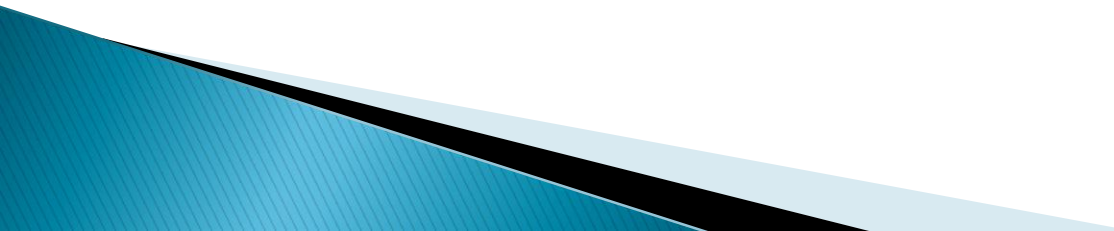
The Source

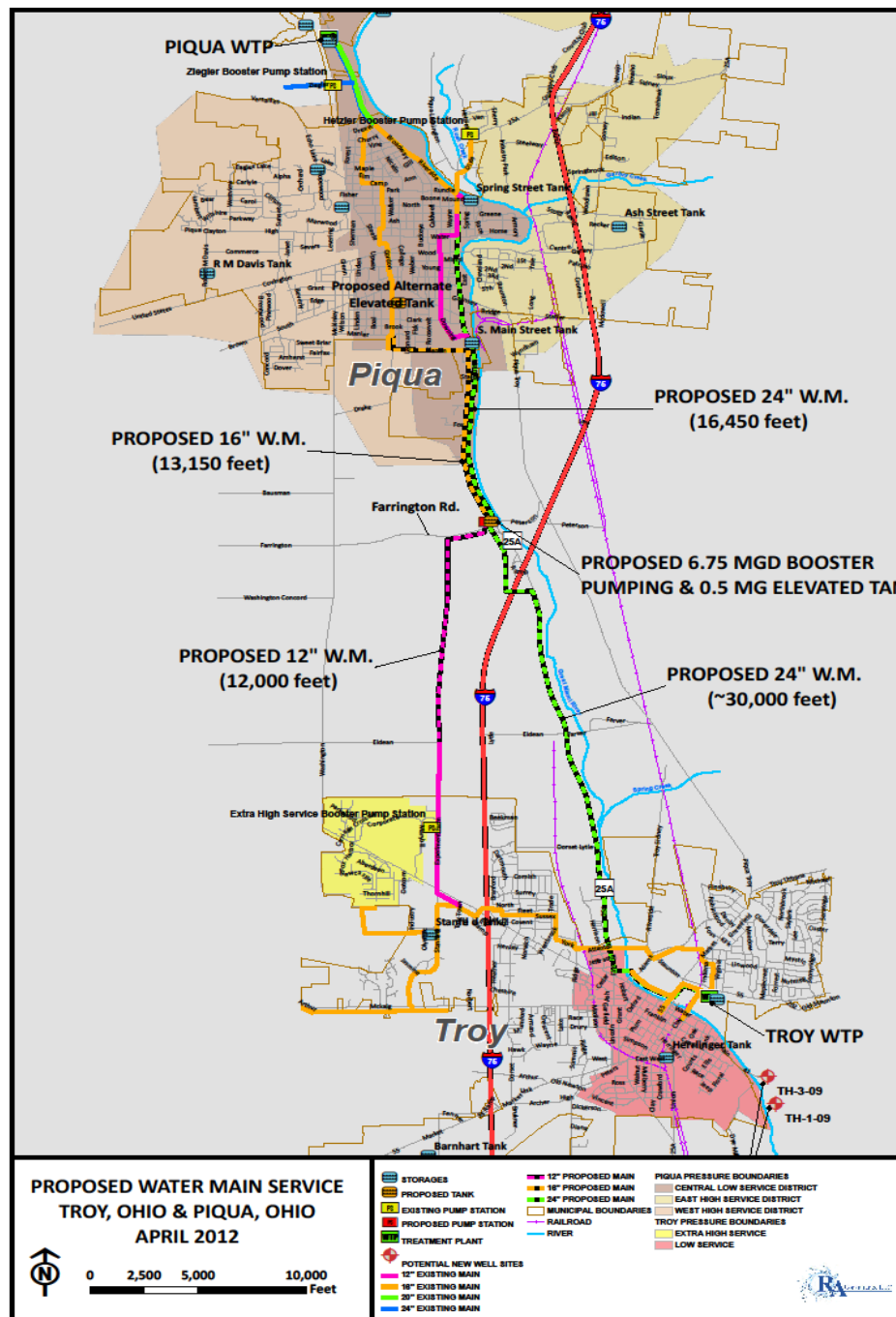
- ▶ Troy WTP originally built in 1971 as 8 MGD plant and expanded to 16 MGD in 1999.
 - ▶ 2010 OEPA Sanitary Survey Evaluation Report rated the Troy WTP in “Very good” condition capable of meeting current & future regulations.
 - ▶ RA site visit of the WTP confirmed that the new plant expansion, regularly planned equipment upgrades and replacements have all contributed to a treatment plant that can render 50–75 more years of useful life.
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Troy WTP Source Water

- ▶ Troy Well Fields, East & West, contain 10 wells capable of producing 10.4 MGD
 - ▶ Troy conducted exploratory tests – 5 drilling sites – 3 sites offered promise to be capable of producing 2–3 MGD per site raising well field capacity to FIRM 16 MGD.
 - ▶ Eagon & Associates Well Field Sustainability Assessment concluded that there is no plausible scenario whereby the aquifer near Troy becomes unusable from the standpoint of water quality or aquifer capacity.
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Moving the Finished Water North

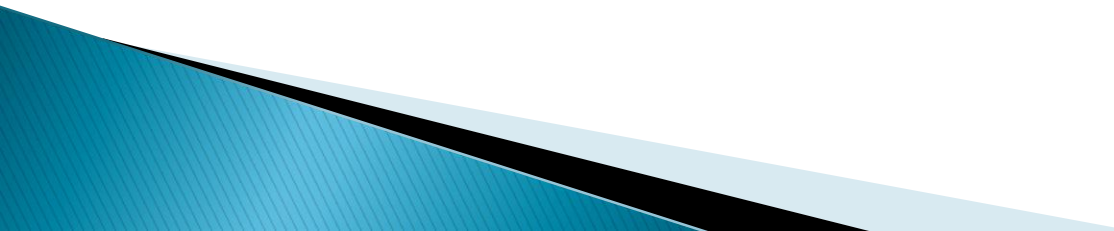
- ▶ The transmission system must convey 6.75 MGD to Piqua while maintaining service to Troy customers
 - ▶ Interconnection between new transmission line and Troy system are desirable.
 - ▶ Redundant mains from Troy to Piqua to reduce risk of “no water” condition
 - ▶ Water storage available to allow operational flexibility and chemical treatment infusion
 - ▶ Piping improvements into Piqua to connect with existing transmission system
 - ▶ Boosted system capable of matching existing Piqua pressure gradient and future improvements.
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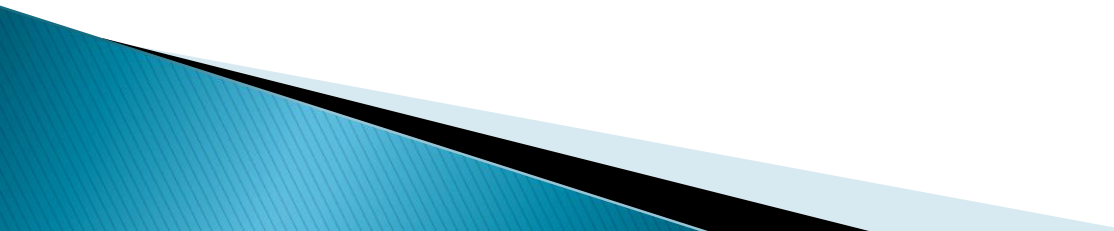
Moving the Finished Water North

- ▶ Configuration of plant/system improvements
 - 24-inch transmission main from WTP to interconnection point (Farrington Rd & N. CR 25A)
 - Redundant 12-inch main along Experiment Farm Rd to interconnect point.
 - 6.75 MGD Booster Pumping Station @ interconnection
 - 0.5 MG elevated tank
 - Chemical Feed System
 - Standby Generator


Interconnect to Piqua

- ▶ 32,000 feet of redundant transmission mains.
 - ▶ 16,450 ft. 24-inch main north through Piqua along CR 25A to Spring & Green Sts.
 - ▶ 13,150 ft. 16-inch water main north along CR 25A and Hemm Rd to existing 16-inch in Gordon Ave.
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Opinion of Construction Cost

- ▶ Troy System Improvements – \$6,517,000
 - Includes well field expansion
 - ▶ Booster Pumping Station & Receiving Tank – \$2,388,000
 - ▶ Piqua System Improvements – \$4,657,000
 - ▶ Total Estimated Cost – \$17,000,000
 - Includes contingency (10%) and engineering fees (15%)
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Potential Alternatives

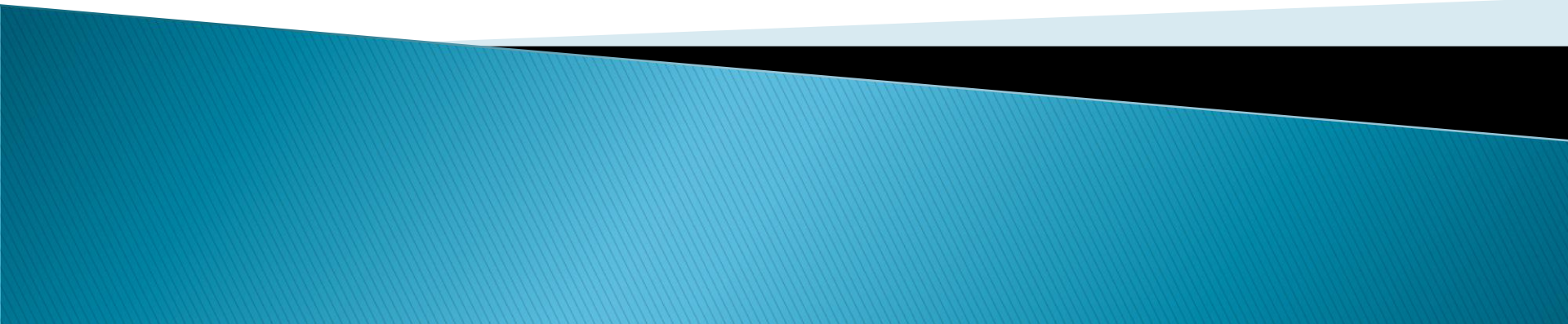
- ▶ Ground Storage at interconnect point rather than elevated storage
 - Higher volume of water
 - Tank in a tank design
 - Long-term operational cost vs. Lower capital investment
 - ▶ High Service pumps at WTP filling a new elevated tank in Piqua
 - Eliminates intermediate booster pumping station and tank
 - Chemical additions made at proposed tank site.
 - Potential for connection of feeder main to Troy “extra high” service area.
- 

New Piqua Water Treatment Plant

- ▶ 6.75 MGD WTP designed by Camp Dresser & McKee/Smith (CDM Smith)
- ▶ Surface water source supply
- ▶ CDM Smith Cost Estimate
 - WTP – \$26.26 million
 - Offsite – \$5.37 million
 - Total – \$31.6 million

Project Cost Estimate for Alternative 1D	
Description	Cost
WTP	
Site Work	\$ 2,720,000
Onsite Filter Backwash Facility	\$ 330,000
Yard Piping	\$ 720,000
Chemical Building	\$ 3,800,000
Flocculation Basins	\$ 900,000
Sedimentation Basins	\$ 1,890,000
Recarb Basins	\$ 520,000
Filter/Admin/Pump/GAC Building	\$ 7,870,000
Clearwells	\$ 2,340,000
Subtotal	\$ 20,890,000
Contingencies and Engineering	\$ 5,370,000
Project Total	\$ 26,260,000
Offsite Work	
Raw Water PS	\$ 1,010,000
Gravel Quarry PS Improvements	\$ 280,000
24" Raw Water Piping	\$ 1,170,000
12" Gravel Quarry Raw Water Piping	\$ 100,000
24" Finished Water Piping	\$ 1,250,000
8" Sludge	\$ 190,000
Subtotal	\$ 4,000,000
Contingencies and Engineering	\$ 1,365,000
Project Total	\$ 5,370,000
Overall Project Cost	\$ 31,630,000

STRUCTURE & GOVERNANCE



Develop Conceptual Model for Bilateral Governance

- ▶ Critical Requirements established for Joint Operation of a Treatment/Supply Utility:
 - Employees
 - Operation of Facilities
 - Rates
 - Governance
 - Services
 - Other



Structure and Governance Options

- ▶ Wholesale (Bulk) Water Sale.
 - Use as benchmark for comparison with other options
- ▶ Create a Water District – ORC 6119.
- ▶ Enter into a Joint Venture agreement – similar to Tipp City/Vandalia model for NAWA.
- ▶ Create independent non-profit entity.



NAWA Joint Venture Case Study

- ▶ NAWA contracts with Vandalia for fiscal services and with Tipp City for operations and administrative services
 - NAWA has no employees – all staff remained employees of their respective municipalities
- ▶ Governed by 5–member Board of Participants
 - 2 representatives official from Tipp City
 - 2 representatives from Vandalia
 - 5th neutral member selected by board

Additional Thoughts from Site Visit with NAWA Board and Staff

- ▶ Strong technical committee supports the Board
- ▶ Roles seemed clearly defined and operating per the JV agreement
- ▶ CIP – financing apportioned to each city based on project by project benefit analysis
- ▶ Board members very engaged and overall positive, professional, collegial environment



Joint Venture Governance

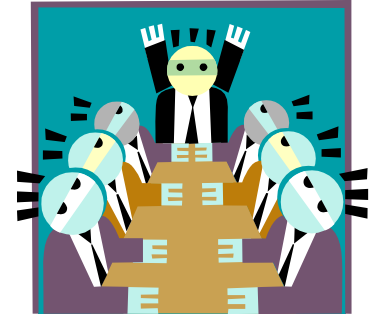
- ▶ Purpose of the Joint Venture (ORC 715.02)
 - Hold treatment and interconnection assets on behalf of communities.
 - Provide a reliable supply of water that meets communities daily needs.
 - Supply drinking water supply that meets all local, state, and federal regulations.
 - Assist communities in providing outstanding customer service to their citizens and ratepayers.
 - Fulfill the JV's purpose at a reasonable cost to the communities.

Joint Venture Board of Trustees

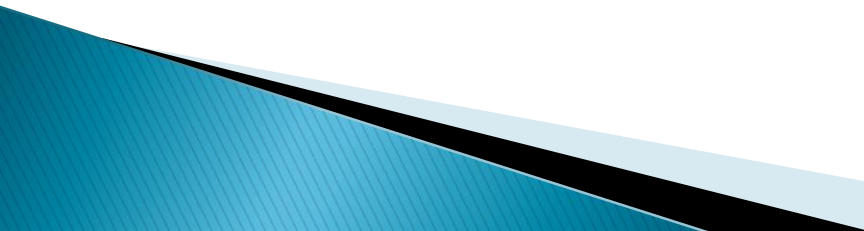
- ▶ Purpose/mission of Governing Board
 - Insure the purpose of the JV is fulfilled
 - Construct and maintain assets necessary to fulfill purpose/mission
 - Set policies for day to day operations of treatment plant and interconnection
 - Insure water supplied and JV operations meet all local, state, and federal regulations
 - Provide associated services as requested jointly by communities

Proposal for Piqua/Troy JV Board of Trustees

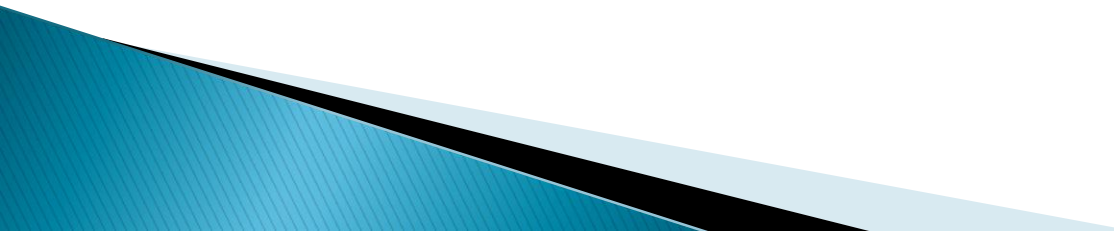
- ▶ Seven member board
 - Chief Administrator of Piqua
 - Chief Administrator of Troy
 - Chief Financial Officer of Piqua
 - Chief Financial Officer of Troy
 - Public Utility Director (or similar position) of Piqua
 - Public Utility Director (or similar position) of Troy
 - Member from outside the communities selected by the other members of the Board



Proposed Board of Trustees

- ▶ Board chairmanship alternated annually between communities
 - ▶ Vice chair would be representative from community not serving as board chair
 - ▶ Treasurer alternated annually between Financial Officers
 - ▶ Board shall meet no less than every 90 days
 - ▶ Board establishes committees as sees fit, one of which will be a technical committee to advise the board on day to day operations
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Possible Operating Structure for a Troy/Piqua Joint Venture

- ▶ Contract with Troy for operation of plant
 - ▶ Contract with Piqua for accounting, auditing of JV finances
 - ▶ Board approves:
 - Annual operating and capital budgets
 - Wholesale rates charged to communities
 - Purchases and contracts over \$50,000
- 

Additional Proposed Provisions for Troy/Piqua JV

- ▶ JV would only be authorized to sell water on wholesale basis to cities of Troy and Piqua unless approved by both cities
- ▶ Costs of JV would be allocated to each city based upon water supplied
- ▶ Each community would set its own retail rates for its customers

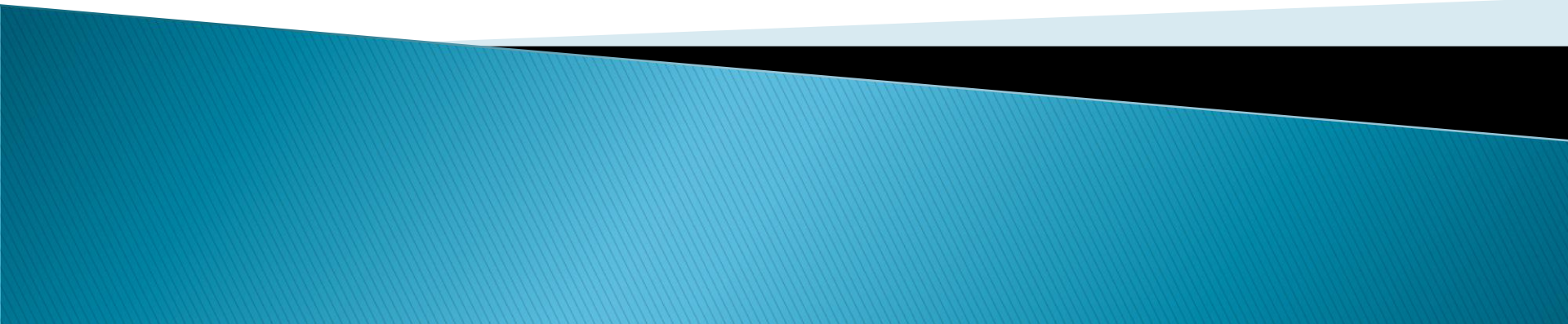


Additional Proposed Provisions for Piqua/Troy JV

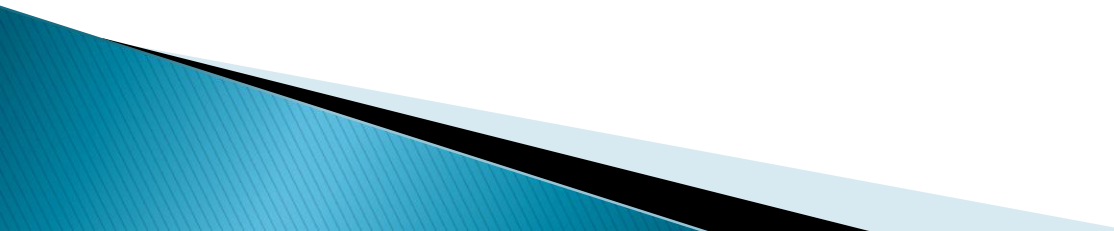
- ▶ Both cities would maintain own distribution systems, billing, and management of systems within their service area
 - Each city would be responsible for meeting water quality regs within their own distribution systems
 - JV would be responsible for meeting water quality regs at point of interconnection meters
- ▶ JV agreement would remain in place in perpetuity unless the cities agreed to dissolve the JV
 - JV would continue to operate until such time as each community could construct treatment facilities or secure alternate water supply to meet the community's daily needs



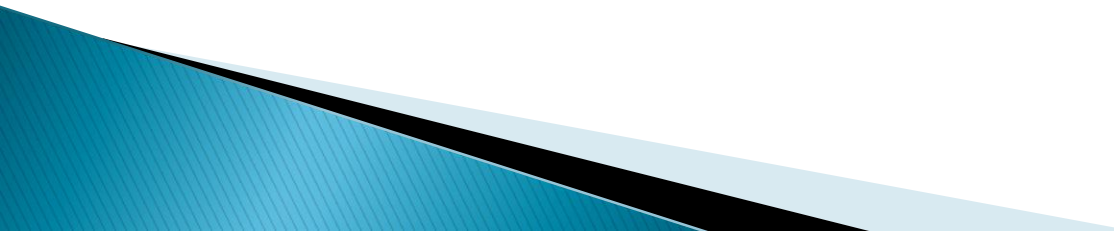
Financial Analysis & Rate Impacts



What Does it Provide?

- ▶ Provides comparisons between options
 - Base Case
 - Joint Venture
 - ▶ Incorporates Capital and Operating Costs
 - ▶ Reflects timing
 - Capital financing
 - Revenue adjustments
 - Inflationary impacts
- 

Base Case

- ▶ As-is for each community
 - Reflects projected growth
 - Includes capital improvement program
 - Based on current operating budgets
 - Reflects inflationary factors on operating and capital
 - Illustrates potential revenue adjustments to meet operating and capital needs
 - Works towards achieving sound financial benchmarks
- 

City of Piqua – Base Case

► Assumptions

- New WTP in 2016
- Debt Financed
 - 3.5%
 - 30 Year term
- Additional operating costs

Assumptions City of Piqua Base Case - No Joint Venture - 3.5% Debt			
New Capital Costs			
Cost of New Treatment Plant		\$	26,260,000
Cost of Raw Water Line		\$	<u>5,370,000</u>
Total		\$	31,630,000
Capital Spend in 2012		\$	<u>(2,200,000)</u>
Net Capital Cost		\$	29,430,000
Change in Operating Costs			
Increased Operating costs in 2016		\$	1,789,600
Cost savings		\$	<u>(604,600)</u>
Net increase in Operating Costs		\$	1,185,000
Growth in Customer Base			
2013		0.0%	
2014 - 2035		0.2%	annually
Inflation factors			
Operating		3.0%	annually
Capital			
2013 - 2014		2.0%	annually
2015 - 2017		3.0%	annually
2018 - 2035		3.3%	annually
Borrowing Costs			
Interest rate		3.5%	
Term		30	years
Issuance costs		1.0%	
Reserves		no reserves required	

City of Piqua – Capital Pro Forma

Base Case - No Joint Venture - 3.5% Debt					
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
	\$	\$	\$	\$	\$
Beginning Balance	515,400	20,769,800	2,542,600	1,110,100	923,800
Source of Funds	-	-	-	-	-
Debt	30,000,000	-	5,000,000	-	-
Cash Funding	400,000	500,000	800,000	200,000	600,000
Total Source of Funds	30,400,000	500,000	5,800,000	200,000	600,000
Use of Funds	-	-	-	-	-
CIP	9,845,600	18,727,200	7,182,500	386,300	1,364,200
Issuance Costs	300,000	-	50,000	-	-
Reserve Fund	-	-	-	-	-
Total Use of Funds	10,145,600	18,727,200	7,232,500	386,300	1,364,200
Ending Balance	20,769,800	2,542,600	1,110,100	923,800	159,600

City of Piqua – Operating Pro Forma

		Base Case - No Joint Venture - 3.5% Debt												
		2013	2014	2013	2015	2014	2016	2015	2017	2016	2017			
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			
Beginning Balance	Beginning Balance	880,200	822,100	880,200	858,700	822,100	891,800	858,700	1,187,600	891,800	1,187,600			
Revenue	Revenue	-	-	-	-	-	-	-	-	-	-			
User Charge Revenue	User Charge Revenue	3,076,300	3,081,700	3,076,300	3,087,200	3,081,700	3,092,500	3,087,200	3,098,500	3,092,500	3,098,500			
Revenue from Increase	Revenue from Increase	1,576,600	2,401,200	1,576,600	2,894,200	2,401,200	3,845,000	2,894,200	4,162,300	3,845,000	4,162,300			
Total User Charge revenue	Total User Charge revenue	4,652,900	5,482,900	4,652,900	5,981,400	5,482,900	6,937,500	5,981,400	7,260,800	6,937,500	7,260,800			
Miscellaneous Revenue	Miscellaneous Revenue	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700			
Interest income	Interest income	15,300	15,800	15,300	16,300	15,800	22,700	16,300	23,400	22,700	23,400			
Total Revenue	Total Revenue	4,743,900	5,574,400	4,743,900	6,073,400	5,574,400	7,035,900	6,073,400	7,359,900	6,035,900	7,359,900			
Expenses	Expenses	-	-	-	-	-	-	-	-	-	-			
Operation and Maintenance	Operation and Maintenance	3,161,600	3,161,600	3,069,500	3,256,500	3,161,600	3,539,200	3,256,500	4,675,400	3,539,200	4,675,400			
Cash finance CIP	Cash finance CIP	400,000	500,000	400,000	800,000	500,000	200,000	800,000	600,000	200,000	600,000			
Existing Debt Service	Existing Debt Service	-	-	-	-	-	-	-	-	-	-			
OWDA 2005	OWDA 2005	132,800	132,800	132,800	66,400	132,800	-	66,400	-	-	-			
OWDA 2006	OWDA 2006	14,400	14,400	14,400	7,200	14,400	-	7,200	-	-	-			
Proposed Debt Service	Proposed Debt Service	-	-	-	-	-	-	-	-	-	-			
2012 issue	2012 issue	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900			
2013 issue	2013 issue	1,087,400	1,631,100	1,087,400	1,631,100	1,631,100	1,631,100	1,631,100	1,631,100	1,631,100	1,631,100			
2015 issue	2015 issue	-	-	-	181,200	-	271,900	181,200	271,900	271,900	271,900			
Total Expenses	Total Expenses	4,802,000	5,537,800	4,802,000	6,040,300	5,537,800	7,440,100	6,040,300	7,276,300	7,440,100	7,276,300			
annual balance	annual balance	(58,100)	36,600	(58,100)	33,100	36,600	295,800	33,100	83,600	295,800	83,600			
End of year Balance	End of year Balance	822,100	858,700	822,100	891,800	858,700	1,187,600	891,800	1,271,200	1,187,600	1,271,200			
Reserves	Reserves	767,400	790,400	767,400	814,100	790,400	1,134,800	814,100	1,168,900	1,134,800	1,168,900			
Debt Service coverage	Debt Service coverage	1.26	1.29	1.26	1.42	1.29	1.25	1.42	1.34	1.25	1.34			

Revenue Adjustments		
	Annual	Cumulative
2013	45%	45%
2014	25%	81%
2015	15%	108%
2016	32%	175%
2017	8%	197%

2035 Business Plan – City of Piqua

	Base Case - No Joint Venture - 3.5% Debt										
	Capital Funding Plan				Operating Cash Flow					Revenue Adjustment	
					Revenues	Revenues	Operating		Cash Finance		
	Capital Improvement Plan without WTP and RWL	Water Treatment Plant and Raw Water Line	Debt Issuance	Cash Finance	under Existing Rates	from Increase	Costs	Debt Service	Capital	Annual	Cumulative
	\$	\$	\$	\$	\$	\$	\$	\$	\$		
2013	3,668,100	6,177,500	30,000,000	400,000	3,076,300	1,576,600	3,069,500	1,332,500	400,000	45%	45%
2014	1,652,200	17,075,000	-	500,000	3,081,700	2,401,200	3,161,600	1,876,200	500,000	25%	81%
2015	1,005,000	6,177,500	5,000,000	800,000	3,087,200	2,894,200	3,256,500	1,983,800	800,000	15%	108%
2016	386,300		-	200,000	3,092,500	3,845,000	4,539,200	2,000,900	200,000	32%	175%
2017	1,364,200		-	600,000	3,098,500	4,162,300	4,675,400	2,000,900	600,000	8%	197%
2018	998,200		-	850,000	3,103,800	4,417,800	4,815,700	2,000,900	850,000	8%	221%
2019	909,900		-	900,000	3,109,100	4,674,000	4,960,100	2,000,900	900,000	8%	247%
2020	664,200		-	900,000	3,114,400	4,931,300	5,108,700	2,000,900	900,000	8%	274%
2021	1,294,500		-	1,100,000	3,119,700	5,189,300	5,262,000	2,000,900	1,100,000	8%	304%
2022	1,002,900		-	1,000,000	3,125,700	5,392,100	5,419,700	2,000,900	1,000,000	6%	329%
2023	1,036,000		-	1,000,000	3,131,000	5,589,100	5,582,200	2,000,900	1,000,000	6%	354%
2024	1,070,200		-	1,100,000	3,136,300	5,786,400	5,749,900	2,000,900	1,100,000	6%	381%
2025	1,105,500		-	1,100,000	3,141,600	5,984,600	5,922,400	2,000,900	1,100,000	6%	410%
2026	1,142,000		-	1,200,000	3,147,600	6,185,100	6,100,100	2,000,900	1,200,000	6%	441%
2027	1,179,700		-	1,200,000	3,153,200	6,385,400	6,283,000	2,000,900	1,200,000	6%	473%
2028	1,218,600		-	1,200,000	3,158,800	6,585,900	6,471,600	2,000,900	1,200,000	6%	508%
2029	1,258,900		-	1,200,000	3,164,300	6,787,400	6,665,700	2,000,900	1,200,000	6%	544%
2030	1,300,400		-	1,300,000	3,169,900	6,989,800	6,865,700	2,000,900	1,300,000	6%	583%
2031	1,343,300		-	1,350,000	3,176,200	7,194,400	7,071,800	2,000,900	1,350,000	6%	624%
2032	1,387,600		-	1,400,000	3,181,800	7,397,500	7,283,900	2,000,900	1,400,000	6%	667%
2033	1,433,400		-	1,400,000	3,187,600	7,602,800	7,502,300	2,000,900	1,400,000	6%	713%
2034	1,480,700		-	1,500,000	3,193,200	7,632,000	7,727,400	2,000,900	1,500,000	6%	762%
2035	1,529,600		-	1,500,000	3,200,700	7,649,400	7,959,100	2,000,900	1,500,000	6%	814%
Total	29,431,400	29,430,000	35,000,000	23,700,000							

Comparison of 2% and 3.5% Debt

- ▶ Impact in 2013 – 2017
- ▶ Consistent impact thereafter
 - Inflationary cost on capital and operating
 - Growth does not keep up with inflation

	2 % Debt		3.5% Debt	
	Revenue Adjustment		Revenue Adjustment	
	Annual	Cumulative	Annual	Cumulative
2013	40%	40%	45%	45%
2014	20%	68%	25%	81%
2015	10%	85%	15%	108%
2016	35%	149%	32%	175%
2017	8%	169%	8%	197%
2018	8%	191%	8%	221%
2019	8%	214%	8%	247%
2020	8%	239%	8%	274%
2021	8%	267%	8%	304%
2022	6%	289%	6%	329%
2023	6%	312%	6%	354%
2024	6%	337%	6%	381%
2025	6%	363%	6%	410%
2026	6%	391%	6%	441%
2027	6%	420%	6%	473%
2028	6%	451%	6%	508%
2029	6%	484%	6%	544%
2030	6%	519%	6%	583%
2031	6%	556%	6%	624%
2032	6%	596%	6%	667%
2033	6%	638%	6%	713%
2034	6%	682%	6%	762%
2035	6%	729%	6%	814%

City of Troy – Base Case

► Assumptions

- Growth slowing increases
- No Debt
- No Change in operating costs

Growth in Customer Base

2013	0.0%	
2014 - 2016	0.5%	annually
2017 - 2022	1.0%	annually
2023 - 2035	1.5%	annually

Inflation factors

Operating	3.0%	annually
Capital	3.0%	annually

City of Troy – Capital Pro Forma

	Base Case				
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
	\$	\$	\$	\$	\$
Beginning Balance	-	-	-	-	-
Source of funds	-	-	-	-	-
Debt	-	-	-	-	-
Cash funding	-	-	200,000	500,000	800,000
Total Source of funds	-	-	200,000	500,000	800,000
Use of Funds	-	-	-	-	-
CIP	-	-	200,000	500,000	800,000
Total Use of funds	-	-	200,000	500,000	800,000
Ending Balance	-	-	-	-	-

City of Troy – Operating Pro Forma

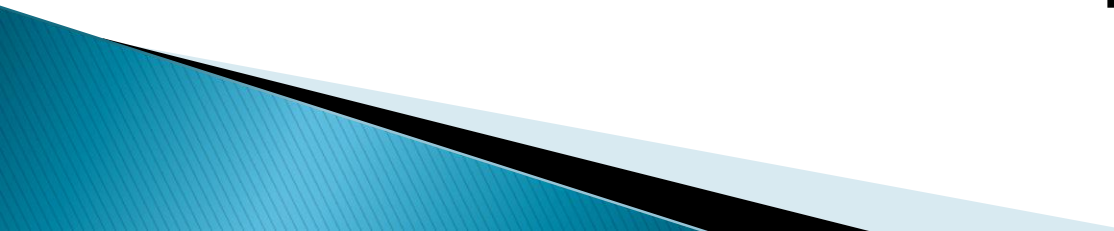
	Base Case					Base Case				
	2013	2014	2015	2016	2017	2016	2017			
	\$	\$	\$	\$	\$	\$	\$			
Beginning Balance	1,000,000	921,100	1,009,880	920,170	988,165	1,017,750	916,550			
Revenue	Revenue									
User Charge Revenue	4,179,900	4,199,900	4,172,000	4,192,000	4,220,000	4,242,000	4,284,400			
Revenue from Increase		231,000	485,400	231,000	488,000	742,300	889,100			
Total User Charge revenue	4,179,900	4,430,900	4,657,400	4,423,000	4,708,000	4,984,300	5,173,500			
Miscellaneous Revenue	350,900	350,900	350,900	350,900	350,900	350,900	350,900			
Total Revenue	4,529,800	4,781,800	5,008,300	4,773,900	5,058,900	5,335,200	5,524,400			
Expenses	Expenses									
Operation and Maintenance	3,652,000	3,762,000	3,652,000	3,752,000	3,871,800	3,991,000	4,110,800			
Cash finance CIP		-	200,000	500,000	200,000	500,000	800,000			
Exising Debt Service										
1997 Refunded	561,600	559,150	561,600	559,150	555,900	551,650	556,400			
1996 Refunded	393,750	393,750	393,750	393,750	396,750	393,750	-			
Total Expenses	4,608,800	4,714,900	4,608,800	4,714,900	5,024,650	5,436,400	5,467,200			
Annual Balance	(78,900)	66,900	(78,900)	(60,000)	29,700	(101,200)	57,200			
End of year Balance	921,100	988,000	920,170	988,165	1,019,750	916,550	973,750			
Reserves	913,100	940,500	919,600	940,500	968,700	997,750	1,027,700			
Debt Service Coverage	92%	107%	92%	107%	124%	142%	254%			

Revenue Adjustment		
Annual	Cumulative	
2013	0%	0%
2014	6%	6%
2015	6%	12%
2016	6%	19%
2017	3%	23%

2035 Business Plan – City of Troy

	Base Case								
	Capital Funding Plan		Operating Cash Flow					Revenue Adjustment	
			Revenues under Existing Rates	Revenues from Increases	Operating Costs	Debt Service	Cash Finance Capital		
	\$	\$	\$	\$	\$	\$	\$	Annual	Cumulative
2013	-	-	4,179,000	-	3,652,400	956,400	-	0%	0%
2014	-	-	4,199,900	231,000	3,762,000	952,900	-	6%	6%
2015	200,000	200,000	4,220,900	485,400	3,874,800	952,650	200,000	6%	12%
2016	500,000	500,000	4,242,000	742,300	3,991,000	945,400	500,000	6%	19%
2017	800,000	800,000	4,284,400	889,100	4,110,800	556,400	800,000	3%	23%
2018	1,200,000	1,200,000	4,327,300	908,600	4,234,200	-	1,200,000	0%	23%
2019	1,400,000	1,400,000	4,370,500	917,700	4,361,200	-	1,400,000	0%	23%
2020	1,100,000	1,100,000	4,414,200	927,100	4,492,100	-	1,100,000	0%	23%
2021	1,100,000	1,100,000	4,458,400	936,300	4,626,900	-	1,100,000	0%	23%
2022	1,100,000	1,100,000	4,503,000	945,700	4,765,700	-	1,100,000	0%	23%
2023	1,100,000	1,100,000	4,570,500	1,169,200	4,908,700	-	1,100,000	5%	29%
2024	1,100,000	1,100,000	4,639,100	1,291,200	5,055,900	-	1,100,000	2%	31%
2025	1,100,000	1,100,000	4,708,700	1,318,400	5,207,500	-	1,100,000	0%	31%
2026	1,100,000	1,100,000	4,779,300	1,338,400	5,363,700	-	1,100,000	0%	31%
2027	1,100,000	1,100,000	4,851,000	1,447,300	5,524,600	-	1,100,000	2%	34%
2028	1,100,000	1,100,000	4,923,700	1,477,100	5,690,300	-	1,100,000	0%	34%
2029	1,100,000	1,100,000	4,997,600	1,636,900	5,861,100	-	1,100,000	3%	38%
2030	1,100,000	1,100,000	5,072,600	1,767,200	6,037,000	-	1,100,000	2%	41%
2031	1,100,000	1,100,000	5,148,600	1,943,700	6,218,200	-	1,100,000	3%	45%
2032	1,100,000	1,100,000	5,225,900	1,986,000	6,404,800	-	1,100,000	0%	45%
2033	1,100,000	1,100,000	5,304,300	2,112,900	6,597,000	-	1,100,000	2%	48%
2034	1,100,000	1,100,000	5,383,800	2,045,800	6,794,900	-	1,100,000	0%	48%
2035	1,100,000	1,100,000	5,464,600	2,390,700	6,998,700	-	1,100,000	3%	52%
Total	21,700,000	21,700,000							

Joint Venture

- ▶ The sale of the Troy water treatment facilities to the Joint Venture
 - ▶ The buy-in into the capital assets of Joint Venture by each community
 - ▶ The transfer of Troy water treatment plant operating costs to the Joint Venture
 - ▶ The transfer of a portion of Piqua's administrative costs to the Joint Venture
 - ▶ The allocation of the Joint Venture costs back to communities based on projected flow
- 

Assumptions

▶ Operating Costs

- Troy O&M
 - \$2,205,800
- Additional O&M
 - \$545,500
- Additional Personnel
 - \$77,400
- Administrative Costs
 - \$424,300

Total –
\$3,253,000

▶ Capital Costs

- Plant and well field valuation
 - OCLD \$11 M
 - RCLD \$19 M
 - Reproduction \$50 M

Use – \$30 Million

- Improvements
 - \$17.00 M

Total –
\$47,000,000

Allocation of Operating Costs

%s Distribution of Costs

	Demand - mgd			Distribution	
	Piqua	Troy	Total	Piqua	Troy
2013	3.50	4.10	7.60	46.1%	53.9%
2014	3.51	4.12	7.63	46.0%	54.0%
2015	3.51	4.14	7.66	45.9%	54.1%
2016	3.52	4.16	7.68	45.8%	54.2%
2017	3.53	4.20	7.73	45.6%	54.4%
2018	3.54	4.25	7.78	45.4%	54.6%
2019	3.54	4.29	7.83	45.2%	54.8%
2020	3.55	4.33	7.88	45.0%	55.0%
2021	3.56	4.37	7.93	44.8%	55.2%
2022	3.56	4.42	7.98	44.6%	55.4%
2023	3.57	4.48	8.05	44.3%	55.7%
2024	3.58	4.55	8.13	44.0%	56.0%
2025	3.58	4.62	8.20	43.7%	56.3%
2026	3.59	4.69	8.28	43.4%	56.6%
2027	3.60	4.76	8.36	43.1%	56.9%
2028	3.61	4.83	8.44	42.7%	57.3%
2029	3.61	4.90	8.52	42.4%	57.6%
2030	3.62	4.98	8.60	42.1%	57.9%
2031	3.63	5.05	8.68	41.8%	58.2%
2032	3.64	5.13	8.76	41.5%	58.5%
2033	3.64	5.20	8.85	41.2%	58.8%
2034	3.65	5.28	8.93	40.9%	59.1%
2035	3.66	5.36	9.02	40.6%	59.4%

\$s Distribution of Costs

	Total	Piqua	Troy
	\$	\$	\$
2013	-	-	-
2014	-	-	-
2015	3,253,000	1,493,300	1,759,700
2016	3,350,600	1,535,600	1,815,000
2017	3,451,200	1,574,900	1,876,300
2018	3,554,800	1,615,100	1,939,700
2019	3,661,400	1,656,400	2,005,000
2020	3,771,200	1,698,600	2,072,600
2021	3,884,400	1,741,900	2,142,500
2022	4,000,900	1,786,300	2,214,600
2023	4,121,000	1,826,800	2,294,200
2024	4,244,500	1,868,100	2,376,400
2025	4,371,800	1,910,200	2,461,600
2026	4,502,900	1,953,200	2,549,700
2027	4,638,000	1,997,200	2,640,800
2028	4,777,000	2,041,900	2,735,100
2029	4,920,300	2,087,700	2,832,600
2030	5,068,000	2,134,400	2,933,600
2031	5,220,000	2,182,000	3,038,000
2032	5,376,600	2,230,700	3,145,900
2033	5,537,900	2,280,300	3,257,600
2034	5,704,100	2,330,900	3,373,200
2035	5,875,200	2,382,600	3,492,600

City of Piqua – Joint Venture

► Assumptions

- Buy-in to Joint Venture
 - 2014 – 2015
- Debt Financed
 - 3.5%
 - 30 Year term
- New Operating Cost
- Transfer from Joint Venture to Piqua for Administrative Costs

Joint Venture - 3.5% Debt			
New Capital Costs			
Joint Venture	\$ 23,500,000		
Change in Operating Costs			
	2015	2016	
Operating Cost Base Case	\$ 3,256,500	\$ 4,539,200	
Operating Cost with JV	<u>\$ 3,282,300</u>	<u>\$ 3,378,300</u>	
Savings	\$ (25,800)	\$ 1,160,900	
Plus transfer for Admin. Services	<u>\$ 424,300</u>	<u>\$ 437,000</u>	
Total Savings in Operating Costs	\$ 398,500	\$ 1,597,900	
Growth in Customer Base			
2013	0.0%		
2014 - 2035	0.2%	annually	
Inflation factors			
Operating	3.0%	annually	
Capital			
2013 - 2014	2.0%	annually	
2015 - 2017	3.0%	annually	
2018 - 2035	3.3%	annually	
Borrowing Costs			
Interest rate	3.5%		
Term	30	years	
Issuance costs	1.0%		
Reserves	no reserves required		

City of Piqua – Capital Pro Forma

	Joint Venture - 3.5% Debt				
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
	\$	\$	\$	\$	\$
Beginning Balance	515,400	16,665,300	513,100	608,100	1,221,800
Source of Funds					
Debt	28,200,000	-	-	-	-
Cash funding	<u>400,000</u>	<u>500,000</u>	<u>1,100,000</u>	<u>1,000,000</u>	<u>1,000,000</u>
Total Source of Funds	28,600,000	500,000	1,100,000	1,000,000	1,000,000
Use of Funds					
CIP	12,168,100	16,652,200	1,005,000	386,300	1,464,200
Issuance Costs	282,000	-	-	-	-
Reserve Fund	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total Use of funds	12,450,100	16,652,200	1,005,000	386,300	1,464,200
Ending Balance	16,665,300	513,100	608,100	1,221,800	757,600

City of Piqua – Operating Pro Forma

	Joint Venture - 3.5% Debt										
	2013	2014	2013	2015	2014	2016	2015	2017	2016	2017	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Beginning Balance	880,200	1,028,300	880,200	1,175,600	1,028,300	1,303,300	1,075,600	1,544,600	1,003,300	1,544,600	
Revenue											
User Charge Revenue	3,076,300	3,081,700	3,076,300	3,087,200	3,081,700	3,092,500	3,087,200	3,098,500	3,092,500	3,098,500	
Revenue from Increases	1,713,600	2,414,100	1,717,600	2,611,200	2,414,100	2,628,700	2,411,200	2,633,800	2,623,700	2,633,800	
Total User Charge Revenue	4,789,900	5,495,800	4,793,900	5,698,400	5,495,800	5,721,200	5,498,400	5,732,300	5,716,200	5,732,300	
Miscellaneous Revenue	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700	75,700	
Admin Pmt from JV	-	-	-	424,300	-	437,000	24,300	450,100	37,000	450,100	
Interest Income	15,300	15,800	15,300	16,400	15,800	16,900	16,400	17,400	15,900	17,400	
Total Revenue	4,884,900	5,587,300	4,884,900	6,214,800	5,587,300	6,250,800	5,614,800	6,275,500	5,805,800	6,275,500	
Expenses											
Operation and Maintenance	3,069,500	3,161,600	3,069,500	3,282,300	3,161,600	3,378,300	3,282,300	3,472,900	3,178,300	3,472,900	
Cash Finance CIP	400,000	500,000	400,000	1,000,000	500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
Existing Debt Service											
OWDA 2005	132,800	132,800	132,800	66,400	132,800	-	66,400	-	-	-	
OWDA 2006	14,400	14,400	14,400	7,200	14,400	-	7,200	-	-	-	
Proposed Debt Service											
2012 Issue	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900	97,900	
2013 Issue	1,022,200	1,533,300	1,022,200	1,533,300	1,533,300	1,533,300	1,533,300	1,533,300	1,533,300	1,533,300	
Total Expenses	4,736,800	5,440,000	4,736,800	6,087,500	5,440,000	6,009,500	5,087,100	6,104,100	5,100,900	6,104,100	
Annual Balance	148,100	147,300	148,100	127,700	147,300	241,300	227,700	171,400	241,300	171,400	
End of Year Balance	1,028,300	1,175,600	1,028,300	1,303,300	1,075,600	1,544,600	1,003,300	1,716,000	1,003,300	1,716,000	
Reserves	767,375	790,400	767,375	820,575	790,400	844,575	820,575	868,225	844,575	868,225	
Debt Service Coverage	1.43	1.36	1.43	1.72	1.36	1.76	1.72	1.72	1.76	1.72	

Revenue Adjustment

	Annual	Cumulative
2013	50%	50%
2014	20%	80%
2015	5%	89%
2016	0%	89%
2017	0%	89%

2035 Business Plan – City of Piqua

	Joint Venture - 3.5% Debt											
	Capital Funding Plan				Operating Cash Flow						Revenue Adjustment	
	Capital Improvement Plan	Joint Venture	Debt Issuance	Cash Finance	Revenues under Existing Rates	Revenues from Increases	Payment for Admin Services from Joint Venture	Operating Costs	Debt Service	Cash Finance Capital	Annual	Cumulative
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
2013	3,668,100	8,500,000	28,200,000	400,000	3,076,300	1,717,600	-	3,069,500	1,267,300	400,000	50%	50%
2014	1,652,200	15,000,000	-	500,000	3,081,700	2,414,100	-	3,161,600	1,778,400	500,000	20%	80%
2015	1,005,000	-	-	1,100,000	3,087,200	2,611,200	424,300	3,282,300	1,704,800	1,100,000	5%	89%
2016	386,300	-	-	1,000,000	3,092,500	2,628,700	437,000	3,378,300	1,631,200	1,000,000	0%	89%
2017	1,464,200	-	-	1,000,000	3,098,500	2,633,800	450,100	3,472,900	1,631,200	1,000,000	0%	89%
2018	998,200	-	-	1,000,000	3,103,800	2,638,300	463,600	3,570,000	1,631,200	1,000,000	0%	89%
2019	909,900	-	-	1,000,000	3,109,100	2,699,800	477,500	3,669,900	1,631,200	1,000,000	2%	93%
2020	664,200	-	-	1,000,000	3,114,400	2,795,100	491,800	3,772,400	1,631,200	1,000,000	3%	99%
2021	1,294,500	-	-	1,000,000	3,119,700	2,893,600	506,600	3,877,900	1,631,200	1,000,000	3%	105%
2022	1,002,900	-	-	1,000,000	3,125,700	2,993,000	521,800	3,986,300	1,631,200	1,000,000	3%	111%
2023	1,036,000	-	-	1,000,000	3,131,000	3,091,800	537,500	4,092,800	1,631,200	1,000,000	3%	117%
2024	1,070,200	-	-	1,000,000	3,136,300	3,191,200	553,600	4,202,100	1,631,200	1,000,000	3%	123%
2025	1,105,500	-	-	1,100,000	3,141,600	3,290,600	570,200	4,314,300	1,631,200	1,100,000	3%	130%
2026	1,142,000	-	-	1,100,000	3,147,600	3,420,300	587,300	4,429,500	1,631,200	1,100,000	4%	139%
2027	1,179,700	-	-	1,200,000	3,153,200	3,552,600	604,900	4,547,800	1,631,200	1,200,000	4%	149%
2028	1,218,600	-	-	1,200,000	3,158,800	3,685,600	623,000	4,669,100	1,631,200	1,200,000	4%	159%
2029	1,258,900	-	-	1,300,000	3,164,300	3,818,200	641,700	4,793,700	1,631,200	1,300,000	4%	169%
2030	1,300,400	-	-	1,300,000	3,169,900	3,951,900	661,000	4,921,600	1,631,200	1,300,000	4%	180%
2031	1,343,300	-	-	1,300,000	3,176,200	4,086,500	680,800	5,052,900	1,631,200	1,300,000	4%	191%
2032	1,387,600	-	-	1,400,000	3,181,800	4,221,700	701,200	5,187,700	1,631,200	1,400,000	4%	203%
2033	1,433,400	-	-	1,400,000	3,187,600	4,356,300	722,200	5,326,000	1,631,200	1,400,000	4%	215%
2034	1,480,700	-	-	1,500,000	3,193,200	4,374,500	743,900	5,467,900	1,631,200	1,500,000	4%	228%
2035	1,529,600	-	-	1,500,000	3,200,700	4,384,600	766,200	5,613,700	1,631,200	1,500,000	4%	241%
Total	29,531,400	23,500,000	28,200,000	25,300,000								

Comparison of 2% and 3.5% Debt

- ▶ Impact in 2013 – 2017
 - 2% debt – 79% increase
 - 3.5% debt – 89% increase
- ▶ Consistent impact thereafter
 - Inflationary cost on capital and operating
 - Growth does not keep up with inflation

City of Troy – Capital Pro Forma

	Joint Venture				
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
	\$	\$	\$	\$	\$
Beginning Balance	-	-	-	6,500,000	6,500,000
Source of funds	-	-	-	-	-
Debt	-	8,500,000	-	-	100,000
Sale of Asset	-	-	30,000,000	-	-
Cash funding	-	-	700,000	600,000	900,000
Total Source of funds	-	8,500,000	30,700,000	600,000	1,000,000
Use of Funds	-	-	-	-	-
CIP	-	8,500,000	15,700,000	600,000	900,000
Loan Payment	-	-	8,500,000	-	-
Total Use of funds	-	8,500,000	24,200,000	600,000	900,000
Ending Balance	-	-	6,500,000	6,500,000	6,600,000

City of Troy – Operating Pro Forma

	Joint Venture					Joint Venture		
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>	
	\$	\$	\$	\$	\$	\$	\$	
Beginning Balance	1,800,000	921,100	1,009,200	929,100	929,100	918,450	940,950	
Revenue	Revenue							
User Charge Revenue	4,178,000	4,199,900	4,179,000	4,199,000	4,228,000	4,242,000	4,284,400	
Revenue from Increase		462,000	506,500	462,000	505,000	509,000	514,100	
Total User Charge revenue	4,178,000	4,661,900	4,685,500	4,661,000	4,733,000	4,751,000	4,798,500	
Miscellaneous Revenue	350,900	350,900	350,900	350,900	350,900	350,900	350,900	
Total Revenue	4,528,900	5,012,800	5,036,400	5,011,900	5,083,900	5,101,900	5,149,400	
Expenses	Expenses							
Operation and Maintenance	3,652,400	3,762,000	3,652,000	3,762,000	3,840,000	3,534,000	3,646,900	
Cash finance CIP		-	700,000	600,000	700,000	600,000	900,000	
Existing Debt Service								
1997 Refunded	561,400	559,150	561,400	555,150	555,000	551,650	551,650	
1996 Refunded	396,000	393,750	393,750	393,750	396,750	393,750	-	
Proposed Debt Service								
Short Term Loan		297,500	-	297,500	-	-	-	
Total Expenses	4,608,800	5,012,400	4,608,000	5,010,000	5,141,750	5,079,400	5,103,300	
Annual Balance	(79,900)	400	(71,600)	20,000	(36,000)	22,500	46,100	
End of year Balance	921,100	921,500	929,100	929,100	918,450	940,950	987,050	
Reserves	913,100	940,500	918,500	948,000	859,175	883,500	911,725	
Debt Service Coverage	92%	100%	92%	100%	173%	166%	270%	

Revenue Adjustment		
Annual	Cumulative	
2013	0%	0%
2014	12%	12%
2015	0%	12%
2016	0%	12%
2017	0%	12%

2035 Business Plan – City of Troy

	Joint Venture									
	Capital Funding Plan			Operating Cash Flow					Revenue Adjustment	
	Capital Improvement Plan	Joint Venture	Cash Finance	Revenues under Existing Rates	Revenues from Increases	Operating Costs	Debt Service	Cash Finance Capital	Annual	Cumulative
	\$		\$	\$	\$	\$	\$	\$		
2013	-		-	4,179,000	-	3,652,400	956,400	-	0%	0%
2014	-	8,500,000	-	4,199,900	462,000	3,762,000	1,250,400	-	12%	12%
2015	700,000	15,000,000	700,000	4,220,900	506,500	3,428,700	952,650	700,000	0%	12%
2016	600,000		600,000	4,242,000	509,000	3,534,000	945,400	600,000	0%	12%
2017	900,000		900,000	4,284,400	514,100	3,646,900	556,400	900,000	0%	12%
2018	1,400,000		1,400,000	4,327,300	519,300	3,763,500	-	1,400,000	0%	12%
2019	1,400,000		1,400,000	4,370,500	524,500	3,883,500	-	1,400,000	0%	12%
2020	1,300,000		1,300,000	4,414,200	529,700	4,007,500	-	1,300,000	0%	12%
2021	1,100,000		1,100,000	4,458,400	535,000	4,135,500	-	1,100,000	0%	12%
2022	1,100,000		1,100,000	4,503,000	540,400	4,267,400	-	1,100,000	0%	12%
2023	1,100,000		1,100,000	4,570,500	548,500	4,408,600	-	1,100,000	0%	12%
2024	1,100,000		1,100,000	4,639,100	556,700	4,554,200	-	1,100,000	0%	12%
2025	1,000,000		1,000,000	4,708,700	651,300	4,704,700	-	1,000,000	2%	14%
2026	1,000,000		1,000,000	4,779,300	756,700	4,860,100	-	1,000,000	2%	17%
2027	1,000,000		1,000,000	4,851,000	865,000	5,020,500	-	1,000,000	2%	19%
2028	1,000,000		1,000,000	4,923,700	976,600	5,186,200	-	1,000,000	2%	21%
2029	1,000,000		1,000,000	4,997,600	1,091,300	5,357,300	-	1,000,000	2%	24%
2030	1,000,000		1,000,000	5,072,600	1,209,200	5,534,100	-	1,000,000	2%	26%
2031	1,000,000		1,000,000	5,148,600	1,330,200	5,716,600	-	1,000,000	2%	29%
2032	1,000,000		1,000,000	5,225,900	1,454,400	5,904,900	-	1,000,000	2%	31%
2033	1,000,000		1,000,000	5,304,300	1,582,500	6,099,400	-	1,000,000	2%	34%
2034	1,000,000		1,000,000	5,383,800	1,714,100	6,300,200	-	1,000,000	2%	37%
2035	1,000,000		1,000,000	5,464,600	1,849,000	6,507,400	-	1,000,000	2%	39%
Total	21,700,000	23,500,000	21,700,000							

Summary

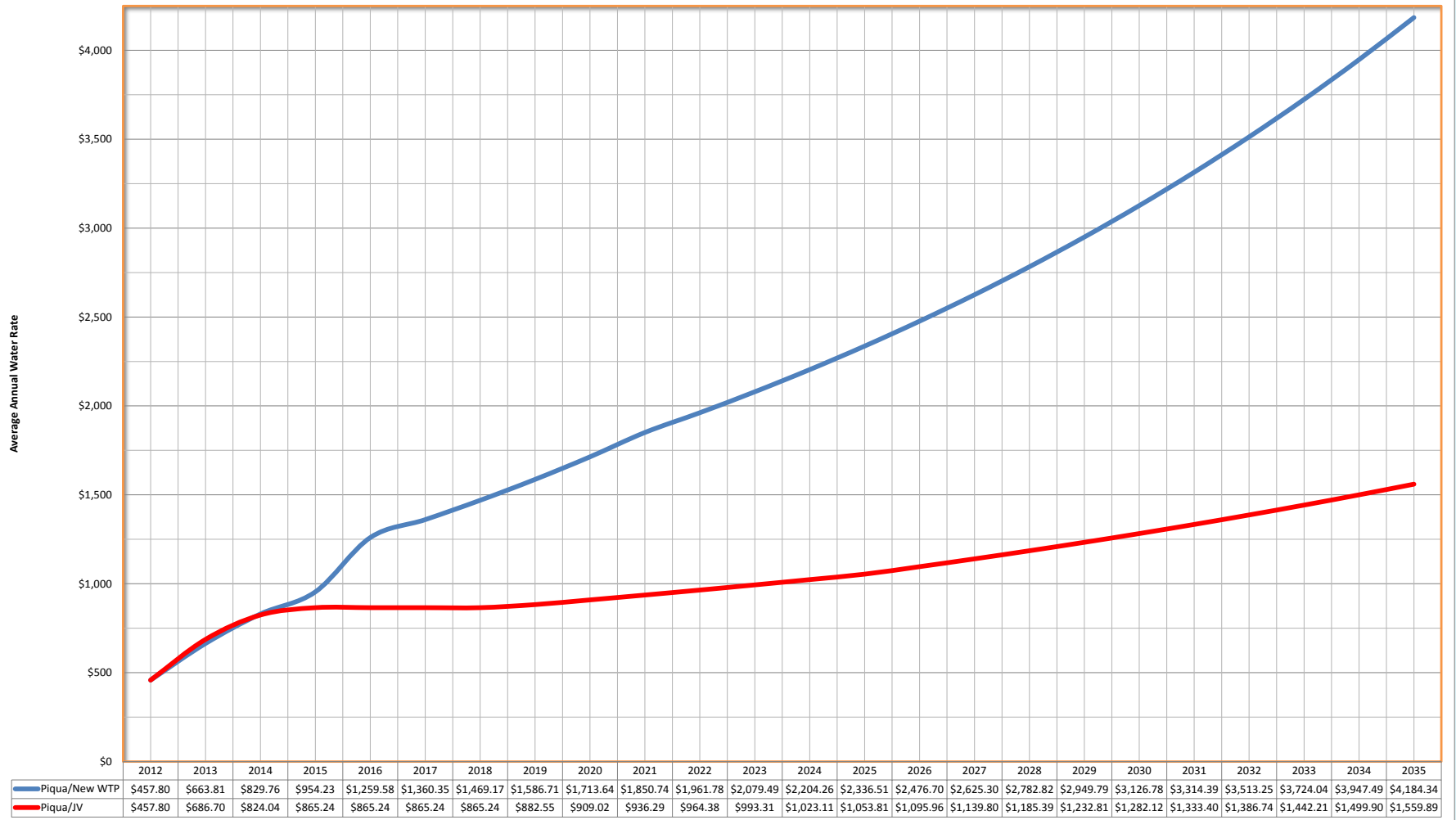
▶ Piqua

- New WTP
 - Capital Spend
 - \$31.6 M
 - Increased Operating Costs
 - \$1.2 M annually
 - Revenue Impacts
 - 197% 5-year adj.
- Joint Venture
 - Capital Spend
 - \$23.5 M
 - Decrease Operating Costs
 - (\$400 K)
 - Revenue Impacts
 - 89% 5-year impact

▶ Troy

- As-Is
 - Capital Spend
 - \$1.5 M
 - Operating Costs
 - No change
 - Revenue Impacts
 - 23% 5-year adj.
- Joint Venture
 - Capital Balance
 - \$6.6 M
 - Decrease Operating Costs
 - (\$330 K)
 - Revenue Impacts
 - 12% 5-year impact

City of Piqua Comparison of Rate Impacts re City of Piqua/City of Troy Joint Water Study, 2012-2035



Comparison of Rate Impacts re City of Piqua/City of Troy Joint Water Study, 2012-2017

